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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,344	09/24/2003	HEI TAO FUNG	11872-US-PA	2343
31561	7590	05/29/2007	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE			RIYAMI, ABDULLA A	
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ROOSEVELT ROAD, SECTION 2				
TAIPEI, 100				
TAIWAN				
			ART UNIT	PAPER NUMBER
			2609	
			NOTIFICATION DATE	DELIVERY MODE
			05/29/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

## Office Action Summary

**Application No.**

10/605,344

**Applicant(s)**

FUNG, HEI TAO

**Examiner**

Abdullah Riyami

**Art Unit**

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

  
DANG T. TON

SUPERVISORY PATENT EXAMINER

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 10, 12, 14-16, 18, 20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) 7, 9, 11, 13, 17, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### ***Abstract***

1. The abstract of the disclosure is objected to because in lines 3 and 4, "This loop detection mechanism" is a phrase that can be implied. Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

In paragraph 005, line 3, it is suggested to change "in" to --is--.

In paragraph 0023, line 1, it is suggested to change "bock" to --block--.

Art Unit: 2609

In paragraph 0033, line 14, it is suggested to add --switch-- after "local".

In paragraph 0036, line 4, it is suggested to change "presents" to --presented--.

In paragraph 0045, line 4, it is suggested to change "VALN" to --VLAN--.

In paragraph 0056, line 8, it is suggested to change "clocks" to --blocks--.

Appropriate correction is required.

### ***Claim Objections***

4. Claims 4, 9, 11, 13, 14, 16, 19, 22 and 25 are objected to under 37 CFR 1.75 because of the following informalities:

In claim 4, line 3, it is suggested to change "an I/G bit" to --an I/G bit--.

In claim 9, lines 10 and 14, it is suggested to change "frames"" to --frame--.

In claim 11, line 11, it is suggested to remove "the". In line 12, it is suggested to change "states" to --state--. In line 12, it is also suggested to change "such the" to --said--. In line 18, it is suggested to change "one" to --out--. In line 19, it is suggested to change "an" to --a--. It is also suggested to add --for-- after "VLAN" and also change "the VLANs" to --said VLANs-- and to remove "on each of the VLANs".

In claim 13, line 7, it is suggested to remove -the- from "other the ports" and change "active" to -- action, --. In line 11, it is suggested to change "receiving" to --receives--.

Art Unit: 2609

In claim 14, line 7, it is suggested to change "being in different the ports" to – being in different said ports--. In line 8, it is also suggested to change "being the same port" to – are the same port--.

In claim 16, line 3, the occurrence of "operation" seems to refer back to "operation" in claim 15, line 9. If this is true, it is suggested to change "operation" to –said operation--. In line 5, it is suggested to change "that" to –that--.

In claim 19, line 4, it is suggested to change "the" to said".

In claim 22, line 2, it is suggested to add –of-- after "detecting".

In claim 25, line 3, it is suggested to change "switch"s capability" to –switch's capability--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 4-6, 8, 10, 12, 14-16, 18, 20, and 22-25 are rejected under 35 USC 102(e) as being anticipated by Gai et al. (US 6,678,241 B1).

In claim 1, Gai et al. discloses a topology loop detection mechanism, for a network, comprising: sending out a loop detection frame (see column 8, lines 33-36); and detecting a topology loop (see column 8, lines 43-45).

In claim 2, Gai et al. discloses a loop detection frame comprising a plurality of fields, the fields at least comprising: a Destination Media Access Control (DMAC) address (see figure 6, block 606); and a Source Media Access Control (SMAC) address (see figure 6, block 608).

In claim 4, Gai et al. discloses a topology loop detection mechanism, wherein the DMAC address (see figure 6, block 606) is a Media Access Control (MAC) address of a local switch (figure 3, block 230) with an I/G bit set (see group multicast address, column 15, line 15).

In claim 5, Gai et al. discloses a topology loop detection mechanism, wherein the SMAC address (see figure 6, block 608) is a Media Access Control (MAC) address of a local switch (figure 3, block 230) with the I/G bit set cleared (see column 15, line 14).

In claim 6, Gai et al. discloses a topology loop detection mechanism, wherein the loop detection frame further comprises a type/length (see column 15, lines 12-13), which carries a length (see column 15, lines 12-13) of the loop detection frame (see column 15, line 11).

In claim 8, Gai et al. discloses a topology loop detection mechanism, wherein the loop detection frame further comprises a message (see column 15, line 11),

including a plurality of Type-Length-Value (TLV) fields (see additional fields, column 15, lines 12-13).

In claim 10, Gai et al. discloses a topology loop detection mechanism, wherein the detecting (see column 8, line 28) of the topology loop comprises: a transmission procedure (see column 8, lines 20-25 and figure 3, block 304); a reception and forwarding procedure (see column 8, lines 20-25); an analysis procedure (see column 8, lines 38-45 and figure 3, block 308); and an action procedure (see column 8, lines 38-45 and figure 3, block 308).

In claim 12, Gai et al. discloses a loop detection mechanism, wherein the second transmission algorithm (see column 3, lines 9-11) requires a detecting time (see column 2, lines 62-64) of the topology loop between 1 to 80 seconds (see column 3, lines 15-16).

In claim 14, Gai et al. discloses a topology loop detection mechanism, wherein the analysis procedure (see column 2, lines 19-24) comprises: determining the topology loop if the port originating (see column 2, lines 19-24) the loop detection frame and the port receiving (see column 2, lines 19-24) the loop detection frame are both in forwarding states (see column 2, lines 19-24); the local switch (see column 2, lines 14-16) being part of the topology loop if the ports, being in different ports (see column 2, lines 19-24); and the topology loop residing remotely if the ports being the same port (see column 2, lines 19-24).

In claim 15, Gai et al. discloses a topology loop detection mechanism, wherein the action procedure (see column 2, lines 19-24) for stopping the topology loop if

detected comprises: blocking (see column 2, lines 24-26) the port originating the loop detection frame if a unidirectional link (see column 12, lines 17-20) occurs; alarming the end-user (see column 2, lines 26-28) to implement a remedy (see column 2, lines 26-28) if detecting a remote topology loop; and resuming operation automatically (see column 3, lines 17-20) after a timer expiry (see column 3, lines 17-20).

In claim 16, Gai et al. discloses a topology loop detection mechanism, wherein the blocked port (see column 2, lines 24-26) due to loop detection resumes operation automatically (see column 3, lines 17-20) after the timer expiry (see column 3, lines 17-20), so that end-users (see column 2, lines 26-28) do not need to access (see column 2, lines 26-28) the switch to do that.

In claim 18, Gai et al. discloses a topology loop detection mechanism, wherein the topology loop is detected upon detecting a unidirectional link (see column 12, lines 17-20), wherein port hardware (see column 11, lines 53-56) is stuck at a transmitting logic (see column 12, lines 17-20) or at a receiving logic (see column 12, lines 17-20).

In claim 20, Gai et al. discloses a topology loop detection mechanism, wherein the topology loop is detected upon detecting VLAN translation (see column 11, lines 17-27 and lines 34-35), wherein assignments to VLAN on the ports are inconsistent (see several times, column 11, lines 28-31).

In claim 22, Gai et al. discloses a topology loop detection mechanism, wherein the detection of the topology loop is done by enabling (see column 2, lines 17-23)



the local switch, (see column 12, line 16) that is located where the topology loop potentially exists (see column 12, lines 17-23).

In claim 23, Gai et al. discloses a topology loop detection mechanism, wherein the local switch MAC address (figure 3, block 230) with the I/G bit (see group multicast address, column 15, line 15) is set as the DMAC address (see figure 6, block 606) for reducing CPU load (see topology switch engine, column 15, lines 13-16).

In claim 24, Gai et al. discloses a topology loop detection mechanism, wherein the port (see column 2, lines 19-20) is disabled by default (see column 2, lines 14-16), the port featuring disabled (see column 2, lines 19-28), receives or forwards (see column 2, lines 19-28) the loop detection frames, and the port featuring enabled (see column 2, lines 19-28) sends out the loop detection frames and is blocked (see column 2, lines 19-28) when the topology loop is detected (see column 2, lines 14-25).

In claim 25, Gai et al. discloses a topology loop detection mechanism, wherein the topology loop detection mechanism is independent (see column 2, lines 1-6) of a switch's capability of detecting a topology loop (see column 2, line 4).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2609

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gai et al. in view of IEEE Standard 802.1t-2001(Part 3: Media access Control Bridges-Amendment 1).

In claim 3, Gai et al. teaches all of the claimed subject matter with the exception of the DMAC address being 01-80-c2-00-00-2f.

IEEE Standard 802.1t-2001 (Part 3: Media access Control Bridges-Amendment 1) from the same field of endeavor discloses a reserved MAC address 01-80-c2-00-00-2f (see page 23, table 12-1 (GARP Application addresses)). Gai et al. and the IEEE Standard 802.1t-2001 are analogous art because they are from the same fields of endeavor of multicasting MAC addresses (see page 23, table 12-1 (GARP Application addresses)).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an IEEE Standard 802.1t-2001 reserved MAC address (see page 23, table 12-1 (GARP Application addresses)) for multicasting and detecting active topologies.

The motivation for using an IEEE Standard 802.1t-2001 reserved multicast MAC address (see page 23, table 12-1 (GARP Application addresses)) would have been to have less processing time for the processors when detecting active topologies because the switch's not involved with loop detection will broadcast the frame.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gai et al. in view of Enomoto et al. (US 2004/0160904 A1).

In claim 26, Gai et al. teaches all of the claimed subject matter with the exception of the checksum/authentication algorithm.

Enomoto from the same field of endeavor discloses a loop detection frame mechanism allowing any checksum/ authentication algorithm (see frame checksum sequence (FCS), figure 31, block 2206).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include Enomoto's FCS as a checksum/ authentication algorithm along with the loop detection frame for detecting active topologies.

The motivation for using Enomoto's FCS would have been to determine the existence of any transmission errors.

***Allowable Subject Matter***

11. Claim 7, 9, 11,13,17,19 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 9, 11, 13, and 19 would be allowable if rewritten to overcome the objection under 37 CFR 1.75 set forth in this Office action.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sakurai (US 6,810,021 B1), Khanna et al. (US 6,343,330 B1), Mahajan et al. (US 6,628,624 B1), Di Benedetto et al. (US 2006/0206656 A1) are recited to show a topology loop detection mechanism.

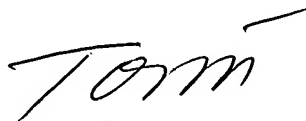
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdullah Riyami whose telephone number is (571) 270-3119. The examiner can normally be reached on Monday through Thursday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2609

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR

  
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SUPERVISORY PATENT EXAMINER